Abstract of the Disclosure

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A voltage generator with reduced noise features a detector, a controller, a sub-booster, a main booster and a voltage adder. The detector receives an output voltage, a first reference voltage and a second reference voltage lower than the first reference voltage, and then outputs a first sensing signal and a second sensing signal. The controller receives the first sensing signal and the second sensing signal and an action signal to output a first control signal and a second control signal. The sub-booster boosts a voltage in response of the first control signal. The main booster boosts a voltage in response to the second control signal. The voltage adder adds output signals from the sub-booster and main booster, to provide the output voltage.